

DETAILED ACTION

Claims 15-16 and 18-30 are pending.

Information Disclosure Statement

1. The information disclosure statement (IDS) filed 29 June 2009 includes references already of record and cited on the PTO-892 mailed 26 June 2009. Said reference have been considered as to the merits by their citation on the PTO-892. It appears the IDS filed 29 June 2009 and the Office Action mailed 26 June 2009 crossed in the mail.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 15-16 and 18-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 18, "the combination of the elements cerium, other rare earth and iron" (emphasis added) lacks proper antecedent basis in claim 15, which it depends. (1) Claim 15 does not require any elements of the cerium compound, iron compound, or other rare earth compounds to be combined. (2) Claim 15 claims compounds and not elements. An element has zero valence. Compound are substances composed of atoms or ions of two or more elements in chemical combination. Since the compounds are expected to be in other than elemental form, "the combination of elements" would not exist, *i.e.*, is zero. Thus, the rhodium concentration is meaningless. (3) the species

of "the . . . other rare earth" lack antecedent basis in claim 15. (4) It is unclear what the percent is based, e.g., w/w % or molar %.

In Claim 21, it is unclear the 50% defines, e.g., Ce mole % / total moles CeO₂ or CeO₂ mole % / total moles CeO₂ and Fe₂O₃. It is unclear what optionally modifies.

Claim 15 is indefinite since it is unclear if all the claim elements set forth after "particles" refer to the particles thereof, i.e., particles of a cerium compound, particles of an iron compound, particles of an acid and particles of an organic phase, and comprising a compound of rhodium. It is unclear what are claimed as the particles and what is the dispersing medium. It is unclear if applicants intent multiple particle species or particles of cerium, iron and rhodium dispersed in an organic phase with an acid.

Claim 26 is unclear regarding what applicants intend as optional elements for preparing the "aqueous mixture", i.e., optionally a salt of a rare earth other than cerium and an iron salt, and a salt of rhodium are all option or just some.

Claim Interpretation

4. Claim 15 reads:

15. A colloidal dispersion comprising particles of a cerium compound, an iron compound, an acid and an organic phase, and comprising a compound of rhodium.

Claim 26 reads:

26. A method for preparing a dispersion comprising the steps of:
a) preparing an aqueous mixture comprising at least one cerium salt, optionally a salt of a rare earth other than cerium and an iron salt, and a salt of a rhodium;
b) contacting the aqueous mixture of step (a) with a basic medium to form a reaction mixture whose pH is maintained at a basic pH, thereby producing a precipitate; and

c) the precipitate obtained in step b) is contacted with the acid and the an organic phase, to obtain an organic colloidal dispersion.

Claims are read in their broadest reasonable light. See rejections under 35 USC 112, 2nd paragraph above. Claim 21 reads on zero or not more than 50 % (mole % ?) of elemental cerium of the total oxides. Claim 26 only requires at least one cerium salt in preparing the aqueous mixture in a).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Rhodia Terres Rares, WO 01/10545, as evidenced by Blanchard et al, US 2006/0005465.

Rhodia Terres Rares and Blanchard et al are patent family members based on the same priority documents and are expected to have the same or substantially the same disclosure. The Blanchard et al reference is employed here as an English language translation of the French Rhodia Terres Rares reference. All citations refer to Blanchard et al and the corresponding disclosure in Rhodia Terres Rares.

See examples and claims. Although the use of palladium is not exemplified, it is clearly envisaged by at least claim 21 of the references.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 15-16 and 18-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhodia Terres Rares, WO 01/10545, as evidenced by Blanchard et al, US 2006/0005465.

Rhodia Terres Rares and Blanchard et al are patent family members based on the same priority documents and are expected to have the same or substantially the same disclosure. The Blanchard et al reference is employed here as an English language translation of the French Rhodia Terres Rares reference. All citations refer to Blanchard et al and the corresponding disclosure in Rhodia Terres Rares.

Rhodia Terres Rares and Blanchard et al (see examples and claims, particularly claims 17, 21, and 25-27) disclose catalytic organosol compositions employing at least one rare earth compound an amphiphilic acid and a diluent. Rhodia Terres Rares and Blanchard et al (claims 20 and 21) discloses the further incorporation of at least one element of the transition metals in the catalyst including specifically mentioned iron and palladium as well as (paragraph [0072]) salts of group VIIIB of the periodic table of elements. Group VIII includes iron, rhodium and palladium as known and accepted elements of group VIII of the periodic table. The "at least one element (E)" clearly conveys mixtures of elements (E).

Rhodia Terres Rares and Blanchard et al differs from the claim in the exemplified combinations as claimed.

Rhodia Terres Rares and Blanchard et al clearly contemplate combinations of transition metals in the cerium materials as suggested by example 3 employing iron in the references, paragraph [0072], claims 20 and 21 setting forth iron, palladium and including therein rhodium.

An proper evidentiary showing of unexpected properties of the particles comprising cerium oxide, iron oxide and rhodium oxide as compared to the cerium oxide and iron oxide particles of the Rhodia Terres Rares and Blanchard et al compositions, said showing being commensurate in scope with the instant claims as compared to the reference disclosures would obviate this rejection to the composition claims.

Double Patenting

10. Claim 19 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 18. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 15-16 and 18-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17-41 of copending Application No. 11/222,603. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims substantially overlap and/or are encompassed by the instant claims. The claims clearly generically

read on at least one element (E) selected from those elements of Group VIII of the periodic table, which include iron rhodium and palladium. The alt least one element clearly conveys mixtures or said elements.

Furthermore, it is generally *prima facie* obvious to use in combination two or more ingredients that have previously been used separately for the same purpose in order to form a third composition useful for that same purpose. In re Kerkhoven, 626 F.2d 846, 205 USPQ 1069 (CCPA 1980); In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971); In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960). As stated in Kerkhoven and Crockett, the idea of combining them flows logically from their having been individually taught in the prior art.

An proper evidentiary showing of unexpected properties of the particles comprising cerium oxide, iron oxide and rhodium oxide as compared to the cerium oxide and iron oxide particles of the Rhodia Terres Rares and Blanchard et al compositions, said showing being commensurate in scope with the instant claims as compared to the reference disclosures would obviate this rejection to the composition claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

13. Applicant's arguments filed 28 September 2009 have been fully considered but they are not persuasive.

14. Applicants (pages 6 and 7) assert the claims set forth colloidal compositions and methods of making the same having a formulation that renders it suitable for a number of applications. It is deemed the Rhodia Terres Rares and Blanchard et al references at least teach the reduction of soot as a by-product of the combustion of fuels.
15. Applicants (page 7) assert claims 15 and 26 have been amended to require the presence of a compound of rhodium. While this is agreed regarding claim 15, a compound of rhodium is claimed as an optional component in the claim methods. See the above rejections regarding claim 26.
16. Applicants' (page 8) arguments regarding the obviousness rejection over Rhodia Terres Rares and Blanchard et al has been addressed above in the rejections.
17. The provisional obviousness-type double patenting rejection has similar issues to the obviousness rejection under 35 USC 103(c) and has been addressed above.

Conclusion

18. Wakefield, US 7,169,196, cited on the PTO-892 attached to the Office Action, mailed 26 June 2009, corresponds to the patent family members PGPUB 2005/0066571 and WO 03/040270 A2 cited in applicants IDS, filed 29 June 2009.
19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Daniel S. Metzmaier/
Primary Examiner, Art Unit 1796**

DSM